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A new species of the genus *Stedocys* (Araneae: Scytodidae), from Japan

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Abstract — A new scytodid species of the genus *Stedocys* is described as *Stedocys amamiensis* sp. nov. from Amami-Ôshima, Japan. This species is similar to *S. gaolingensis* Wu & Li 2017 from China, but can be distinguished from it by having stouter embolus and abdominal markings on the midline. The genus *Stedocys* is newly recorded from Japan, and this record is the northeasternmost area for the genus. For future study, partial sequence data of mt-COI gene of the new species is documented.

Key words — Taxonomy, Amami-Ôshima, newly recorded genus, *Stedocys amamiensis*, COI

Introduction

The family Scytodidae is widely distributed in the World, and contains five genera (World Spider Catalog 2019). One of them, *Stedocys* Ono 1995 is characterized by extremely long legs and male palp which lacks in cymbial apical digitiform extension (Ono 1995). This genus is distributed in Southeast Asia, and up to now, a total of twelve species are known (World Spider Catalog 2019). The members of this genus inhabit humid caves and under logs (Ono 1995; Labarque et al. 2009; Wu et al. 2017).

Recently, I recognized the occurrence of a *Stedocys* species in the primary forests in Amami-Ôshima, Kagoshima Pref., southern Japan. This species is described as a new species in this paper, and the genus *Stedocys* is recorded from Japan for the first time. Also, for future study, partial sequence data of mitochondrial cytochrome oxidase subunit I (mt-COI) of the new species is documented.

Materials and Methods

Specimens were preserved in 80% ethanol, and their morphological features were observed under a Leica M125C stereomicroscope. The type specimens designated in this paper are deposited in the collection of the Department of Zoology, National Museum of Nature and Science, Tokyo.

The following abbreviations are used: ALE, anterior lateral eye; PLE, posterior lateral eye; PME, posterior median eye.

Measurements are given in mm, and measurements in parenthesis indicate the range among specimens examined. Measurements of legs are given in the following format: [femur + patella + tibia + metatarsus + tarsus = total].

One juvenile collected with the male paratype was used for molecular experimentation. Genomic DNA was extracted from the right third leg using a FavorPrep Tissue Genomic DNA Extraction Mini Kit (Favorgen Biotech Corp, Ping-Tung, Taiwan). Mt-COI was amplified using the primer set LCO1498: 5′-GGT CAA CAA ATC ATA AAG ATA TTG G-3′ and HCO2198: 5′-TAA ACT TCA GGG TGA CCA AAA AAT CA-3′ (Folmer et al. 1994). The reactants were initially denatured for 2 min at 94°C, followed by 40 cycles of 15 s at 94°C, 20 s at 47°C, and 30 s at 72°C. PCR products were purified using ExoSAP-IT (GE Healthcare Bio-Sciences, Little Chalfont, England). The PCR products were then sequenced at the Takara Bio Dragon Genomic Center (Takara Bio, Yokkaichi, Japan) using the Applied Biosystems 3730xl DNA Analyzer (Life Technologies Japan, Ltd., Tokyo, Japan) and BigDye Terminator v. 3.1 Cycle Sequencing Kit (Applied Biosystems). Chromatograms were checked using MEGA ver. 7 (Kumar et al. 2016). The nucleotide sequence data obtained in this study is available in the DDBJ/EMBL/GenBank database.

Taxonomy

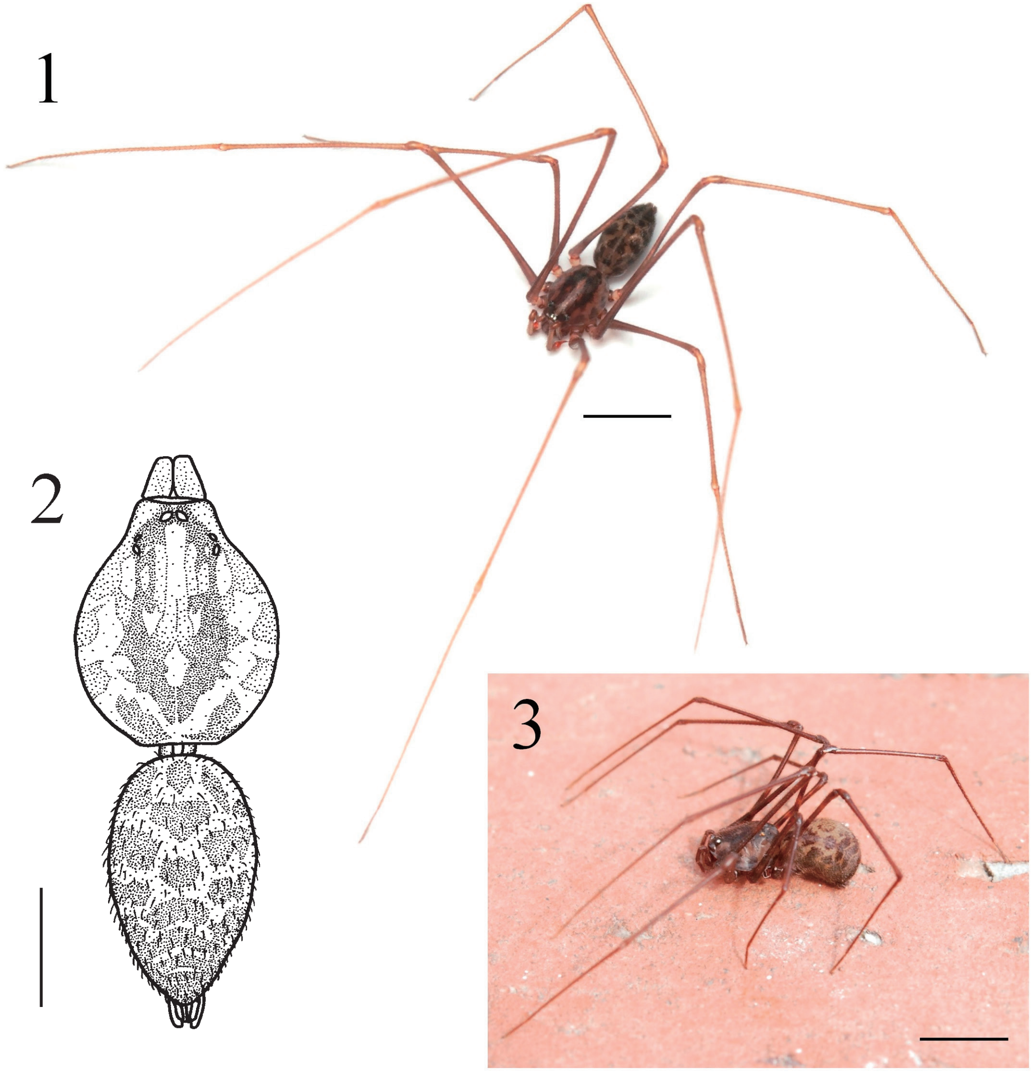
Genus *Stedocys* Ono 1995

[Japanese name: Ashinaga-yamashirogumo-zoku]

Stedocys Ono 1995, p. 132; Labarque et al. 2009, p. 2; Wu et al. 2017, p. 216. Type species: *Stedocys uenorum* Ono 1995, from Thailand.

Diagnosis. Males of this genus are distinguished from those of other genera by having very unique genital morphology: cymbia are short and lacking in apical digitiform extension; tegular parts are lacking in hyaline membrane. Females are characterized by having slightly sclerotized post- or pre-epigastric foveae. Additionally, the members of this genus share extremely long legs.

Natural history. Species in this genus are found in caves and wet primary forests, and they hang on webs (Ono 1995; Labarque et al. 2009; Wu et al. 2017).



Figs. 1–3. *Stedocys amamiensis* sp. nov. 1–2, male habitus; 3, female habitus. Scales = 5.0 mm (1, 3); 2.0 mm (2).

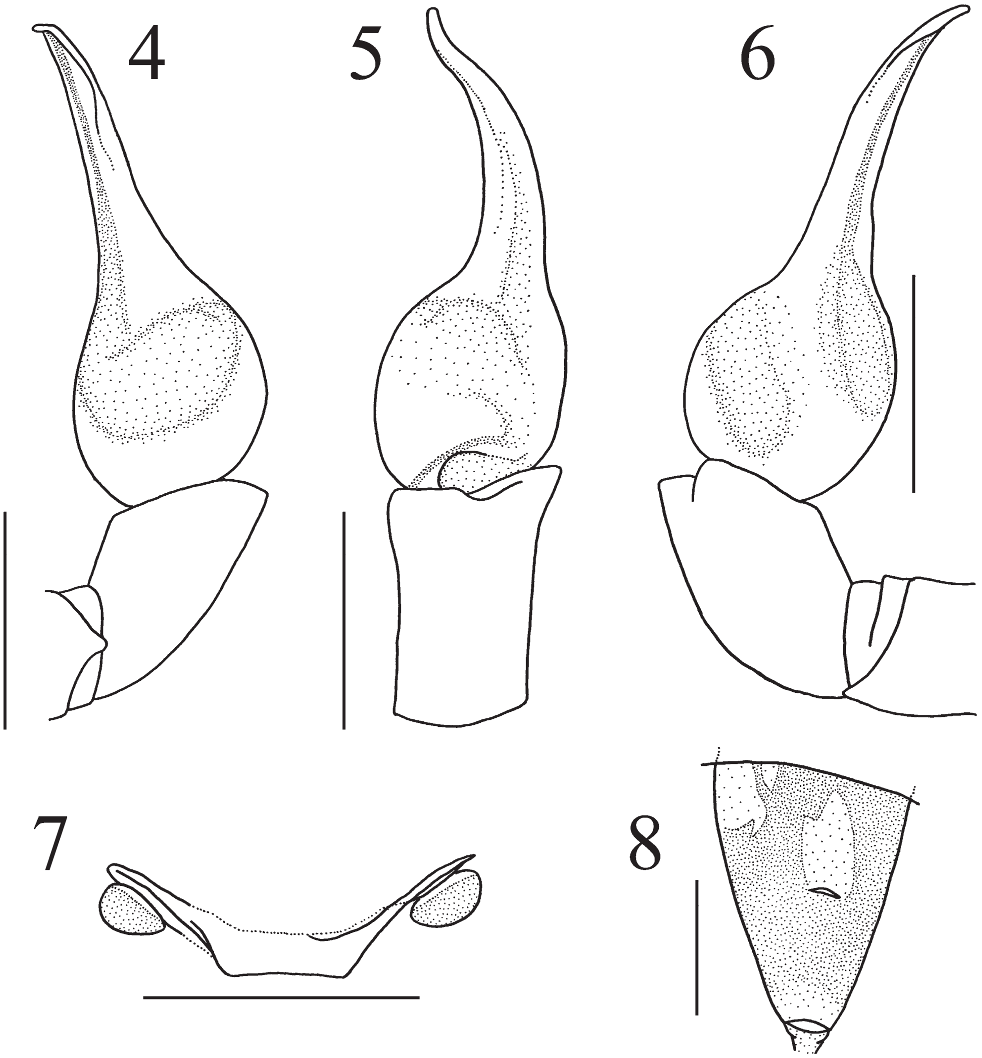
Distribution. Japan (new record), China, Thailand and Malaysia (World Spider Catalog 2019). The Japanese record is the northeasternmost instance at the present.

Stedocys amamiensis sp. nov.
[Japanese name: Amami-ashinaga-yamashirogumo]
(Figs. 1–8)

Diagnosis. Males of this species resemble those of *S. gaolongensis* Wu & Li 2017 and *S. xiangzhouensis* Wu & Li 2017 in palpal morphology (Figs. 4–6). However, the new species can be distinguished from *S. gaolingensis* by the slightly thick embolus which is slightly s-curved in dorsal view, whereas it is curved prolaterally in *S. gaolingensis*. In retrolateral view, the embolus of the new species is gradually tapering from the bulb, without the concave dorsal outline of embolic base, whereas that of *S. xiangzhouensis* is projecting from the bulb, with the strongly concaved dorsal outline of embolic base. Also, as contrasted with those two species, the new species has clear abdominal markings along the midline in both sexes (Figs. 1–3).

Type materials. Holotype: ♂, Mt. Yuidake, Setouchi-chô, Amami-Ôshima, Kagoshima Pref., Japan, 23-III-2017 (collected as a juvenile and reared until becoming an adult on 18-III-2018), T. Suguro leg. Paratypes: ♂, Toen, Yamato-son, Amami-Ôshima, Kagoshima Pref., Japan, 21-III-2017 (become an adult on 13-III-2018), T. Suguro leg.; ♀, Yuwan, Uken-son, Amami-Ôshima, Kagoshima Pref., Japan, 15-IX-2011, T. Suguro leg.

Description. Based on male holotype and female paratype. Measurements. Body 8.15 / 9.45 long; carapace 4.00 / 4.10 long; 3.40 / 3.37 wide; 2.35 / 2.47 high; abdomen 4.15 / 5.35



Figs. 4–8. *Stedocys amamiensis* sp. nov. 4–6, male palp (4, retrolateral view; 5, dorsal view; 6, prolateral view); 7, female internal genitalia, dorsal view; 8, female left chelicera, retrolateral view. Scales = 0.5 mm.

long; 2.60 / 3.47 wide. Eye sizes: AME 0.22 / 0.23; PME 0.17 / 0.20; PLE 0.18 / 0.22. Chelicera 1.38 / 1.23 long. Labium 0.63 / 0.78 long; 0.70 / 0.83 wide. Sternum 2.00 / 2.00 long; 1.53 / 1.53 wide. Length of legs: I 11.50 + 1.10 + 11.80 + 12.20 + 2.00 = 38.60 / 8.00 + 1.10 + 8.00 + 8.00 + 1.60 = 26.70; II 10.20 + 1.10 + 10.10 + 10.60 + 1.80 = 33.80 / 6.90 + 1.00 + 6.80 + 6.90 + 1.10 = 22.70; III 7.00 + 1.00 + 6.10 + 6.50 + 1.40 = 22.00 / 5.10 + 1.00 + 4.50 + 4.70 + 1.40 = 16.70; IV 9.10 + 1.00 + 8.70 + 9.00 + 1.70 = 29.50 / 6.70 + 1.10 + 6.10 + 6.00 + 1.40 = 21.30; palp 2.38 + 0.60 + 2.10 + 0.68 = 5.75 / 1.15 + 0.40 + 0.83 + 1.13 = 3.51.

Chelicera bearing single stridulatory ridge on the middle of retrolateral surface only in female (Fig. 8).

Male palp (Figs. 4–6). Embolus rather thick, weakly s-curved in dorsal view, with blunt apex. In retrolateral view, embolus gently tapering from sphere bulb, and dorsal outline of embolic base without distinct concave.

Female genitalia (Fig. 7). Sclerotized plate almost trapezoid. A pair of spermathecae oval. Postgastral sulci absent.

Coloration and markings (Fig. 1–3). Male and female subequal. Carapace pale brown, covered with sparse black hairs on dorsum, bearing greyish brown and dark brown markings (mainly lateral margins and a pair of longitudinal bands). Chelicera brown. Labium, maxilla and sternum greyish brown, covered with sparse greyish brown hairs. Dorsum of abdomen yellowish brown, covered with brown hairs, bearing three rows of distinct dark brown markings. Venter of abdomen speckled with yellowish and dark brown, covered with brown hairs. Spinnerets greyish brown. Legs greyish brown, gradually becoming light in distal segments, slightly banded on femora. Palp pale brown.

DNA barcode. The accession number of DDBJ/EMBL/

GenBank database is LC463221 (634 bp; from one juvenile with the following data: Toen, Yamato-son, Amami-Ôshima, Kagoshima Pref., Japan, 21-III-2017, T. Suguro leg.).

Distribution. Japan (Amami-Ôshima Island). Collected from under rocks and fallen trees on forest floor and beside mountain streams in primary forests.

Remarks. Male and female are considered conspecific because they share same coloration and markings.

Etymology. The specific name refers to the type locality, and is adjective.

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